

## **REMARKS**

Claims 1 and 5 have been amended, claim 22 has been cancelled without prejudice, and claims 61 and 62 have been added. No new matter has been added by virtue of the amendments. For instance, support for the amendment of claim 1 and the new claims appears e.g. at page 4 first paragraph of the application.

It is believed the amendments made herein obviate the formal-type objection to claim 22 made under 37 CFR 1.75(c).

Claims 1, 5, 9, 10, 12, 15-17, 20-22, 30 and 37-42 were rejected under 35 U.S.C. 112, first paragraph. As grounds for the rejection, the following is stated at pages 2-3 of the Office Action:

In claim 1, applicants recite that the ratio of silanol groups to Si atoms is 0.01 to 1.5. When silanol is a hydroxyl group which is directly attached to a silicon atom, how can one have the present ratio of silanol atoms to Si atoms greater than 1? That is, how can one have more silanol groups than the total number of Si atoms in the polymer? Appropriate correction or clarification is required.

The rejection is respectfully traversed.

The Si atom is tetravalent and thus a single Si atom can accommodate multiple hydroxyl substitution. Thus, for example, the silaonol:Si ratio exceed 1 where a portion of Si atoms comprise multiple hydroxyl groups.

This is entirely consistent with the disclosure set forth in the present application, including page 9, lines 16-18 of the specification which states:

As referred to herein, the term "silanol" designates a hydroxy group (-OH) that is directly linked to an Si atom, i.e. no atoms are interposed between a covalent bond linking the hydroxy oxygen and the Si atom.

In view thereof, reconsideration and withdrawal of the rejection are requested.

Claims 1, 9, 16, 17, 20, 21, 30, 37-42 and 60 were rejected under 35 U.S.C. 102(e) over Barclay et al. (U.S. Patent Publication 2003/0219676).

Claims 12 and 15 were rejected under 35 U.S.C. 103 over Barclay et al. (U.S. Patent Publication 2003/0219676).

For the sake of brevity, the two rejections are addressed in combination.

Applicants will submit under separate cover a Rule 132 Declaration that shows the cited disclosure of U.S. Patent Publication 2003/0219676 has the same inventorship with the present application.

Claims 1, 5, 9, 12, 15-17, 21, 30, 37-42 and 60 were rejected under 35 U.S.C. 103 over Takemura et al. (U.S. Patent 5731126).

As grounds for the rejection, the following is stated on page 10 of the Office action (bold emphasis added):

Takemura states that the number of residual silanol groups is significantly reduced by his method (see col. 6, lines 33-38). **Although Takemura does not expressly teach present ratio of silanol groups to silicon atoms**, it is the Examiner's position that the ratio of the residual silanol groups to silicon atoms in Takemura's polysiloxane would overlap at least with the lower side of the present range (Takemura does not say that the residual silanol groups are completely eliminated. Also, present specification states that present invention brings improved resolution, and Takemura also states that a chemically amplified positive resist composition containing his polysiloxane (with the reduced amount of residual silanol) has high resolution – see col. 3, lines 23-26. It has been held that discovering an optimum value of a result effective variable involved only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

The rejection is traversed.

It is expressly acknowledged in the Office Action that Takemura does not disclose the silanol values recited in Applicants' claims.

Thus, the rejection can not be sustained. This is mandated by Section 2143.03 of the Manual of Patent Examining Procedure, which states in part:

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art.

The Takemura document provides no indication whatsoever of a polymer having a silanol value as recited in Applicants' claims. In fact, Takemura expressly seeks to *rid* the polymers of silanol moieties. In the Examples of Takemura, the produced polymers said to correspond to the reported system are shown by  $^{29}\text{Si-NMR}$  to have no or essentially no silanol content.

Also, the report in Takemura of "high resolution" is clearly not a suggestion of Applicants' claimed invention and cannot be relied on to sustain the instant rejection. See Section 2143.03 of the Manual of Patent Examining Procedure, discussed above.

In view thereof, reconsideration and withdrawal of the rejection are requested.

Respectfully submitted,



Peter F. Corless (Reg. 33,860)  
EDWARDS ANGELL PALMER & DODGE, LLP  
P.O. Box 55874  
Boston, MA 02205  
(617) 439-4444